Complete Summary

GUIDELINE TITLE

Evidence-based clinical practice guideline. Nursing care of the woman receiving regional analgesia/anesthesia in labor.

BIBLIOGRAPHIC SOURCE(S)

Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN). Nursing care of the woman receiving regional analgesia/anesthesia in labor. Evidence-based clinical practice guideline. Washington (DC): Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN); 2001 Jan. 36 p. [72 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Labor during pregnancy

GUIDELINE CATEGORY

Evaluation
Management

CLINICAL SPECIALTY

Anesthesiology
Nursing
Obstetrics and Gynecology
Pediatrics

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Health Care Providers
Nurses

GUIDELINE OBJECTIVE(S)

- To provide evidence-based clinical practice recommendations for nursing assessment and management of women undergoing obstetric regional analgesia/anesthesia
- To present guidelines for assessment and management of the woman and her fetus, as well as for pain relief, motor blockade and the woman's ability to ambulate
- To provide information about medications used for perinatal analgesia/anesthesia including (a) action, (b) maternal-fetal side effects and (c) potential effects on labor and the newborn

TARGET POPULATION

Pregnant women, who with their primary care providers, have made informed decisions to undergo regional anesthesia for intrapartum pain management and who have no identified contraindication for this form of pain management

INTERVENTIONS AND PRACTICES CONSIDERED

1. Preanesthesia nursing preparation of the patient:
    a. Determination of the woman's knowledge, desires and concerns about methods of labor pain management
    b. Education about analgesia and anesthesia techniques and effects, as needed, acknowledging and respecting individual and sociocultural preferences
    c. Baseline maternal-fetal assessment and physical exam in collaboration with the obstetric and anesthesia care providers according to facility protocol
    d. Ensuring that emergency equipment is readily available and functioning
    e. Administration of intravenous fluid preload as ordered
    f. Assisting the patient and anesthesia care provider with positioning for catheter insertion
2. Postprocedure maternal and fetal assessment:
    a. Monitoring maternal vital signs and fetal heart rate patterns
    b. Facilitating lateral or upright maternal position with uterine displacement to minimize hypotension
    c. Managing hypotension or nonreassuring fetal heart rate patterns, which may include notifying the anesthesia or obstetric care provider or both, repositioning the patient and administering intravenous fluid bolus, oxygen or medications as needed and ordered
    d. Monitoring for signs of intravascular injection of local anesthetic
    e. Managing intravascular injection of local anesthetic, including initiation of emergency procedures if necessary and notifying the anesthesia or obstetric care provider or both

f. Monitoring for pruritus that may occur initially or persist after medication administration; administering medication as ordered for severe or unresolved itching
g. Identifying a reassuring fetal heart rate pattern before patient ambulation if ambulation is planned

3. Pain and motor blockade assessment:
    a. Evaluating maternal pain and comfort levels using visual, verbal or other pain assessment tools
    b. Assessing the level of motor blockade in collaboration with the anesthesia care provider
    c. Assessing motor strength and ability to stand and walk before all attempts to ambulate
    d. Assisting in all attempts to ambulate and change positions
4. Assessment and management of maternal side effects from regional analgesia/anesthesia:
    a. Monitoring for nausea and vomiting; administration of medication as ordered and intervention to prevent aspiration if vomiting occurs
    b. Monitoring for signs of postdural puncture headache; if present, appropriate support
5. Assessment and management of neonatal side effects:
    a. Communication of information about medications used for analgesia/anesthesia to neonatal care providers
    b. Monitoring the neonate for neurobehavioral changes or decreased respiratory rate
    c. Administration of narcotic antagonist as ordered if indicated

MAJOR OUTCOMES CONSIDERED

Rates or frequency of maternal, fetal/neonatal untoward effects of regional analgesia/anesthesia or procedures related to analgesia/anesthesia

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The original search, conducted using Internet Grateful Med, MEDLINE and the Cumulative Index of Nursing and Allied Health Literature (CINAHL) databases, was limited to articles in English published between 1994 and 1999. Articles were also selected from the Cochrane Library. Additional articles, including selected articles before 1994, were retrieved based on knowledge of critical works.

The original literature search strategy included identification of citations in which any one of the following terms appeared:

- Maternal hemodynamics and obstetric anesthesia

- Maternal hemodynamics and obstetric analgesia
- Obstetric regional anesthesia/analgesia care
- Anesthetic and analgesic consideration during surgery in pregnancy or immediate postpartum
- Preoperative/perianesthesia nursing care

Limited, topic-specific secondary searches were carried out based on identified gaps in the literature. The stipulation for these search parameters was that the topic terms be present in the body of the article.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Quality of Evidence

I: Evidence obtained from at least one properly designed randomized controlled trial.

II-1: Evidence obtained from well-designed controlled trials without randomization.

II-2: Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one center or research group.

II-3: Evidence from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940s) could also be regarded as this type of evidence.

III: Opinions of respected authorities, based on clinical experience, descriptive studies or reports of expert committees.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

The Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) template for guideline development is based on the framework delineated in the American Nurses Association (ANA) Manual to Develop Guidelines (Marek KD,

American Nurses Association Committee on Nursing Practices, Standards and Guidelines. Washington [DC]: American Nurses Publishing, American Nurses Foundation, American Nurses Association, 1995). The American Nurses Association Manual to Develop Guidelines models its process on that of the Agency for Healthcare Research Quality (AHRQ), formerly the Agency for Health Care Policy and Research (AHCPR).

Team members participated throughout 1999, 2000 and into 2001 in teleconferences, literature review, evaluation and scoring of research articles and creation of the Evidence-Based Clinical Practice Guideline. Consensus was used to delimit the multidisciplinary literature reviewed and accepted for use in this Guideline.

Articles reporting the results of a variety of clinical trials, review articles and reports of case studies were reviewed and scored. A system and tool for scoring the literature was developed based on the method for literature analysis presented in the American Nurses Association Manual to Develop Guidelines (Marek, 1995). Using this framework, each study reviewed by the Guideline team was evaluated in the following eight categories:

1. Problem or question studied
2. Sampling
3. Measurement
4. Internal validity
5. External validity
6. Construct validity
7. Statistical conclusion validity
8. Justification for conclusions

A description of the above criteria and a sample scoring tool are presented in the original guideline document.

Duplicate citations were identified and eliminated. Additional articles, including selected articles before 1994, were retrieved and scored based on knowledge of critical works.

As the Evidence-Based Clinical Practice Guideline was further developed, the quality of the evidence supporting practice recommendations was determined by team consensus using the U.S. Preventive Services Task Force (1996) Guide to Clinical Preventive Services quality-of-evidence rating scale.

Each clinical practice recommendation presented in the Guideline is supported by a referenced rationale using American Psychological Association (APA) format. The column headed Evidence Rating includes the quality of evidence ratings for each reference cited under the column headed Referenced Rationale. Full citations for all references are given in the reference list of the original guideline document.

The referenced rationale citations and quality-of-evidence ratings also include published clinical practice guidelines and recommendations from other professional associations or, in limited instances, from standard texts that represent established and accepted guidelines for management of obstetric

analgesia/anesthesia. These recommendations are included for completeness but are identified as level-III evidence.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

This guideline was peer reviewed by a panel of Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) expert members.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Quality of Evidence Ratings (I-III) are defined at the end of the "Major Recommendations" field.

Preanesthesia Preparation of the Patient

Expected Outcome: The registered nurse, in collaboration with the anesthesia and obstetric care providers, will assess the patient's knowledge of regional analgesia/anesthesia, prepare the patient and intervene as needed to minimize untoward effects.

Assessment

Determine the woman's (and support person's) knowledge and concerns about regional analgesia/anesthesia (AWHONN, 1998; Gajraj et al., 1995: Evidence Rating: III).

Intervention

1. Consult with the anesthesia and obstetric care providers when the decision is made to use regional anesthesia/analgesia (ASA, 1999; ASPAN, 2000; AWHONN, 1998: Evidence Rating: III).
2. Assess and document maternal baseline temperature, blood pressure, pulse and respiratory rate (ASA, 1999; ASPAN, 2000; AWHONN, 1998: Evidence Rating: III).
3. Assess the fetal heart rate tracing before initiating regional analgesia, ideally, to identify a reassuring pattern. If a non-reassuring fetal heart rate pattern is identified, initiate corrective measures as needed and notify the anesthesia/obstetric care provider (Eddleston et al., 1996: Evidence Rating: I) (Collins et al., 1978: Evidence Rating: II-1) (Abouleish et al., 1994; ASA, 1999; AWHONN, 1998: Evidence Rating: III).
4. Review maternal health information obtained with anesthesia and obstetric care providers as needed, including the following:
    a. Maternal vital signs
    b. Most recent fluid and food intake
    c. Ordered laboratory studies
    d. Obstetric and medical risk factors

    (Conklin & Backus, 1999; ASPAN, 2000; AWHONN, 1998: Evidence Rating: III)

5. Encourage the patient to void prior to initiation of regional analgesia/anesthesia (Price et al., 1998: Evidence Rating: I).
6. Administer intravenous fluid bolus as ordered (Zamora et al., 1996: Evidence Rating: I) (Collins et al., 1978: Evidence Rating: II-1) (Hofmeyr, 1995: Evidence Rating: III).
7. Assist the anesthesiologist to position the patient during catheter insertion (lateral decubitus or sitting with feet supported, head flexed forward, elbows resting on knees with feet supported on a stool) (Brown, 1999: Evidence Rating: III).
8. If patient is using patient controlled epidural analgesia:
    a. Reinforce information regarding the use of the infusion device as needed.
    b. Before patient controlled epidural analgesia is initiated, instruct the patient to notify the nurse or the anesthesia care provider unexpected sensations following a demand dose, including any onset of dense motor blockade (Paech, 1998: Evidence Rating: III)

Postprocedure Maternal and Fetal Assessment

Expected Outcome: The registered nurse, in collaboration with the anesthesia care provider, will assess the maternal and fetal response to regional analgesia and intervene promptly as needed to minimize untoward effects.

Blood Pressure

Maternal hypotension has been defined as a systolic blood pressure less than 100 mmHg or a 20% decrease in blood pressure from preanesthesia levels.

Assessment

1. Assess maternal blood pressure after the initiation or re-bolus of a regional block, including patient controlled epidural analgesia. Blood pressure may be assessed every 5 minutes for the first 15 minutes. More or less frequent monitoring may be indicated based on consideration of factors such as the type of analgesia/anesthesia, route and dose of medication used, the maternal-fetal response to medication, maternal-fetal condition, the stage of labor or facility protocol (D'Angelo et al., 1999; Norris, Fogel & Holtmann, 1998; Zamora et al., 1996; Benhamou et al., 1997; Chestnut, McGrath, et al., 1994; Chestnut, Vincent, et al., 1994; Ramanthan et al., 1983: Evidence Rating: I) (Collins et al., 1978: Evidence Rating II-1) (Viscomi et al., 1996: Evidence Rating: III).
2. The frequency of subsequent assessment should be based on consideration of the variables listed above (Danilenko-Dixon et al., 1996; Norris, Fogel & Holtmann, 1998: Evidence Rating: I) (Kinsella & Lohmann, 1994: Evidence Rating: III).
3. Assess pulse and respiratory rate consistent with the frequency of blood pressure assessment. (Danilenko-Dixon et al., 1996; Norris, Fogel & Holtmann, 1998: Evidence Rating: I) (Kinsella & Lohmann, 1994: Evidence Rating: III)

Intervention

1. To maintain maternal blood pressure and minimize hypotension:
    a. Facilitate lateral or upright position with uterine displacement and avoid the supine position (Danilenko-Dixon et al., 1996: Evidence Rating: I).
    b. Maintain maternal uterine displacement using one or more of the following:
        - Hip wedge
        - Lateral decubitus position
        - Semi-Fowler's position with uterine displacement

        (Camann et al., 1998; Cheek et al., 1996; Chestnut, McGrath, et al., 1994; Chestnut, Vincent, et al., 1994; Norris, Fogel & Holtmann, 1998; Ramanathan et al., 1983; Viscomi et al., 1996: Evidence Rating: I) (Collins et al., 1978: Evidence Rating: II-1)

2. Interventions for hypotension may include the following:
    a. Lateral positioning
    b. Administration of additional intravenous fluid bolus as ordered.
    c. Administration of intravenous ephedrine as ordered or per facility protocol
    d. Notification of anesthesia or obstetric care provider as patient's condition warrants if maternal hypotension does not resolve with position change and intravenous fluid bolus

    (Benhamou et al., 1997; Camann et al., 1997; Cheek et al., 1996; Chestnut, McGrath, et al., 1994; Chestnut, Vincent, et al., 1994; Collis et al., 1995; D'Angelo et al., 1999; Eddelston et al., 1996; Norris,

Fogel & Holtmann, 1998; Parry et al., 1998; Ramanathan et al., 1983; Zamora et al., 1996: Evidence Rating: I) (Collins et al., 1978: Evidence Rating: II-1) (Abouleish et al., 1994; Viscomi et al., 1996: Evidence Rating: III)

Initial Catheter Placement

Assessment

1. The licensed anesthesia care provider undertakes catheter placement. In collaboration with the anesthesia care provider, assess for the effectiveness of the anesthesia and the presence of side effects or adverse reactions (Norris et al., 1998: Evidence Rating: II-2) (Thorp & Breedlove, 1996: Evidence Rating: III).
2. Monitor for intravascular injection of local anesthetic (Beilin et al., 1998: Evidence Rating: I) (Norris et al., 1998: Evidence Rating: II-2) (Glosten, 1999: Evidence Rating: III).
3. Monitor for pruritus, particularly during the first hour after medication administration (See the section titled "Assessment and Management of Maternal Side Effects," below.) (Paech, 1998: Evidence Rating: III).

Intervention

If intravascular injection occurs:

- Protect the airway and administer medications and intravenous fluids as ordered
- Notify the anesthesia and obstetric care providers
- Administer oxygen and prepare for mechanical ventilation as needed
- Initiate cardiopulmonary resuscitation if necessary
- Monitor maternal and fetal status

(Glosten, 1999: Evidence Rating: III)

Fetal Assessment

Assessment

1. Assess the fetal heart rate after the initiation or re-bolus of a regional block, including patient controlled epidural analgesia. Fetal heart rate may be assessed every 5 minutes for the first 15 minutes. More or less frequent monitoring may be indicated based on consideration of factors such as the type of analgesia/anesthesia, route and dose of medication used, the maternal-fetal response to medication, maternal-fetal condition, the stage of labor or facility protocol (Cheek et al., 1996; Chestnut, McGrath, et al., 1994; Chestnut, Vincent, et al., 1994; Collis et al., 1995; Collis et al., 1999; D'Angelo et al., 1999; Danilenko-Dixon et al., 1996; Eddleston et al., 1996; Parry et al., 1998; Zamora et al., 1996: Evidence Rating: I) (Manyonda et al., 1990; Spencer et al., 1991: Evidence Rating: II-2) (Cutbush et al., 1998; Viscomi et al., 1996; Paech, 1998: Evidence Rating: III).

2. The frequency of subsequent assessment should be based on consideration of the variables listed above (Cheek et al., 1996; Chestnut, McGrath, et al., 1994; Chestnut, Vincent, et al., 1994; Collis et al., 1995; Collis et al., 1999; D'Angelo et al., 1999; Danilenko-Dixon et al., 1996; Eddleston et al., 1996; Parry et al., 1998; Zamora et al., 1996: Evidence Rating: I) (Manyonda et al., 1990; Spencer et al., 1991: Evidence Rating: II-2) (Cutbush et al., 1998; Viscomi et al., 1996; Paech, 1998: Evidence Rating: III).
3. Assess the fetal heart rate prior to ambulation to identify a reassuring heart rate pattern (Collis et al., 1995: Evidence Rating: I) (Paech, 1998: Evidence Rating: III).

Intervention

1. Initiate measures such as position change, intravenous fluid bolus and oxygen administration if nonreassuring fetal heart rate patterns are identified (Danilenko-Dixon et al., 1996: Evidence Rating: I) (Collins et al., 1978; Paech, 1998; Viscomi et al., 1996: Evidence Rating: III).
2. Notify obstetric and anesthesia care providers as needed for nonreassuring fetal heart rate patterns (Danilenko-Dixon et al., 1996: Evidence Rating: I) (Collins et al., 1978; Paech, 1998; Viscomi et al., 1996: Evidence Rating: III).

Pain

Assessment

Evaluate maternal pain levels on a continuum using appropriate assessment techniques including visual or verbal analogue sales or other pain assessment tools (Beilin et al., 1998; Benhamou et al., 1997; Camann et al., 1998; Chestnut, McGrath, et al., 1994; Chestnut, Vincent, et al., 1994; Collis et al., 1995; Collis et al., 1999; D'Angelo et al., 1999; Danilenko-Dixon et al., 1996; Hill et al., 1995; Loftus et al., 1995; Norris, Fogel & Holtmann, 1998; Price et al., 1998; Vandermuelen et al., 1995; Eddleston et al., 1995; James et al., 1998; Stoddart et al., 1994: Evidence Rating: I) (Norris et al., 1998: Evidence Rating: II-2).

Intervention

Notify the anesthesia care provider of inadequate pain relief after regional analgesia administration (Beilin et al., 1998; Benhamou et al., 1997; Camann et al., 1998; Hill et al., 1995; James, 1998; Norris, Fogel & Holtmann, 1998; Vandermuelen et al., 1995: Evidence Rating: I).

Sedation

Assessment

Assess for sedation if an opioid medication is administered with local analgesia (Camann et al., 1998; Collis et al., 1999; D'Angelo et al., 1999; Hill et al., 1995; Loftus et al., 1995; Norris, Fogel & Holtmann, 1998: Evidence Rating: I).

Motor Blockade

Assessment

1. Assess the level of motor blockade throughout the period of analgesia (Collis et al., 1995; Collis et al., 1999; Vandermuelen et al., 1995; Eddleston et al., 1995; James et al., 1998; Parry et al., 1998; Price et al., 1998: Evidence Rating: I) (Viscomi et al., 1996; Abouleish et al., 1994: Evidence Rating: III).
2. Before and throughout ambulation, once somatosensory function is evaluated, assess the following:
    a. Motor strength
    b. Ability to ambulate

    (Collis et al., 1995; Collis et al., 1999; Price et al., 1998; Parry et al., 1998: Evidence Rating: I)

Intervention

The registered nurse will ensure that women who may ambulate are assisted in all attempts to do so and are assisted to change positions as needed (Benhamou et al., 1997; Collis et al., 1995; Collis et al., 1999; Hill et al., 1995; James et al., 1998; Parry et al., 1998; Price et al., 1998; Writer et al., 1998: Evidence Rating: I).

Assessment and Management of Maternal Side Effects

Expected Outcome: The registered nurse, in collaboration with the anesthesia care provider, will assess the maternal and fetal responses to regional analgesia to minimize and manage side effects.

Pruritis

Assessment

Assess for the presence and severity of itching by patient description or visual scale (Camann et al., 1998; Collis et al., 1995; D'Angelo et al., 1999; Hill et al., 1995; Loftus et al., 1995; Price et al., 1998; Norris, Fogel & Holtmann, 1998: Evidence Rating: I) (Abouleish et al., 1994; Viscomi et al., 1996: Evidence Rating: III).

Intervention

If the patient experiences severe pruritis or pruritus that does not resolve within approximately 1 hour, notify anesthesia care provider and administer medication to alleviate itching as ordered (Collis et al., 1995: Evidence Rating: I) (Abouleish et al., 1994; Paech, 1998; Viscomi et al., 1996: Evidence Rating: III).

Nausea/Emesis

Assessment

Monitor for nausea and vomiting postprocedure and following additional bolus doses of medication (Collis et al., 1995; Collis et al., 1999; Hill et al., 1995;

Norris, Fogel & Holtmann, 1998; Camann et al., 1998; Loftus et al., 1995: Evidence Rating: I) (Abouleish et al., 1994; Halpern et al., 1998: Evidence Rating: III).

Intervention

1. Carry out supportive nursing and safety measures to prevent aspiration if vomiting occurs.
2. Administer medications as ordered. (Hawkins, 1998: Evidence Rating: III).
3. Notify anesthesia care provider as necessary or for severe nausea and vomiting.

Headache

Assessment

Assess for the following symptoms of postdural puncture headache after regional block administration:

- Pain in the frontal and occipital regions
- Pain radiating to neck
- Stiff neck
- Pain that increases in the upright position and may decrease in the horizontal position
- Pain that may be relieved by abdominal compression
- Nausea/vomiting
- Ocular symptoms such as photophobia, diplopia, difficulty in accommodation
- Auditory symptoms such as hearing loss, hyperacusis, tinnitus

(Shearer et al., 1995; Thorp & Breedlove, 1996; Weeks, 1999: Evidence Rating: III)

Intervention

1. Provide nonpharmacologic interventions as indicated:
    - Psychological support
    - Encourage rest in a horizontal position
    - Encourage avoidance of upright positioning
    - Increase oral fluid intake unless contraindicated by other conditions

    (Weeks, 1999: Evidence Rating: III)

2. Administer and monitor the effects of medications as ordered (Weeks, 1999: Evidence Rating: III).
3. Prepare patient for blood patch procedure or other anesthesia procedures as ordered (Weeks, 1999: Evidence Rating: III).

Urinary Retention

Assessment

Assess for urinary retention and bladder distension by observation and palpation (Chestnut, Vincent, et al., 1994: Evidence Rating: I).

Intervention

Assist the woman to void. Perform urinary catheterization if she is unable to void spontaneously (Price et al., 1998: Evidence Rating: I) (Paech, 1998: Evidence Rating: III).

Assessment of Labor Progress

Expected Outcome: The registered nurse will recognize potential implications of regional analgesia/anesthesia on labor progress and when alterations in labor progress may occur.

Assessment

Evaluate labor progress by assessing the following:

a. Uterine activity, via palpation and electronic monitoring
b. Cervical dilation and effacement
c. Fetal descent

(Zamora et al., 1996; Cheek et al., 1996; James et al., 1998; Stoddart et al., 1994; Eddleston et al., 1995; Writer et al., 1998: Evidence Rating: I) (Cutbush et al., 1998; Halpern et al., 1998: Evidence Rating: III)

Intervention

Consider delaying pushing during the second stage of labor to allow the sensation of pressure to increase sufficiently to guide the woman's pushing efforts (Mayberry et al., 1999; Vause et al., 1998: Evidence Rating: I).

Postanesthesia Catheter Care

Expected outcome: Ideally, the epidural catheter will be removed without breakage or hematoma. Catheter removal will be performed by the anesthesia care provider or registered nurse trained in this procedure.

Assessment

Determine from the medical record, or other sources, the patient's position at the time of catheter insertion (Morris et al., 1996: Evidence Rating: I).

Intervention

Place the patient in the same position for catheter removal as for insertion (Morris et al., 1996: Evidence Rating: I).

Assessment and Management of Neonatal Side Effects

Expected outcome: The registered nurse will assess the neonate and intervene to minimize and manage side effects of analgesic/anesthetic medications administered to the mother.

Assessment

1. Assess the neonate for effects of maternal medications received via regional routes (Herman, 1999: Evidence Rating III).

Intervention

1. Monitor the neonate for signs of neurobehavioral change such as decreased motor tone and decreased respiratory rate (Loftus et al., 1995; Writer et al., 1998; Chestnut, McGrath, et al., 1994: Evidence Rating: I) (AHA & AAP, 2000; Walker & O'Brien, 1999: Evidence Rating: III).
2. Administer a narcotic antagonist as ordered for respiratory depression (AHA & AAP, 2000: Evidence Rating: III).
3. Communicate information about medications administered to the mother to neonatal health care providers (AAP & ACOG, 1997: Evidence Rating: I).
4. Initiate neonatal resuscitation when necessary according to current guidelines. (AHA & AAP, 2000: Evidence Rating: III).

Refer to the original guideline document for detailed referenced rationales for each clinical practice recommendation.

Quality of Evidence

I: Evidence obtained from at least one properly designed randomized controlled trial.

II-1: Evidence obtained from well-designed controlled trials without randomization.

II-2: Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one center or research group.

II-3: Evidence from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of the introduction of penicillin treatment in the 1940s) could also be regarded as this type of evidence.

III: Opinions of respected authorities, based on clinical experience, descriptive studies or reports of expert committees.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Supportive nursing care and ongoing nursing assessments of the woman undergoing regional analgesia/anesthesia during labor can help ensure adequate pain relief is achieved, and minimize development of untoward maternal and neonatal effects of regional analgesia/anesthesia.

POTENTIAL HARMS

Potential side effects/adverse reactions associated with regional analgesia/anesthesia:

Maternal:

- Inadvertent dural puncture/postdural puncture headache. Postdural puncture headache occurs secondary to leakage of spinal fluid by inadvertent puncture of the dura. Headache can develop in 1% to 3% of women who receive a subarachnoid block that can be self-limited and benign but may be associated with serious neurologic sequelae such as postpartum seizures.
- Intravenous catheter placement. Intravascular injection of local anesthetic can result in seizures or significant cardiovascular compromise.
- Pruritis. The use of opioids may increase the risk of pruritis by 40% to 90%.
- Sedation. Drowsiness can occur in approximately 20% to 50% of women receiving combination local anesthesia/opioid analgesia.
- Nausea and vomiting. Nausea and vomiting can occur in up to 50% of women following regional analgesia.
- Urinary retention. Urinary retention has been documented in over two thirds of nulliparous women receiving epidural analgesia, irrespective of the time in labor when analgesia was initiated.

Fetal/neonatal:

- Fetal heart rate changes. Fetal heart rate changes recorded using continuous monitoring have included late decelerations, decreased variability, increased variability, tachycardia, and bradycardia.

- Decreased neonatal motor tone and decreased respiratory rate. Neonatal respiratory depression at birth may result from opioid drugs administered to the mother.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- Little clinical nursing research has focused on the care of women receiving regional analgesia/anesthesia during labor, thus the vast majority of studies reviewed for guideline development were conducted by anesthesiologists. Consequently, most of the recommendations for nursing care included in the Guideline were extrapolated from findings reported in the anesthesia literature, rather than from nursing research. The nursing recommendations for regional analgesia/anesthesia during labor were predominately based on studies and reports concerning the physiologic effects of specific analgesic/anesthetic agents, descriptions of side effects and adverse reactions associated with anesthesia, and treatments or other interventions used to counteract undesired anesthesia effects.
- Although the literature selected for guideline development was considered adequate to offer several specific nursing observations and interventions, some of the studies reviewed revealed disparate or inconclusive results concerning important patient care issues. The guideline document discusses several important clinical concepts for which recommendations were either not offered, for which consensus does not exist, or that may be considered controversial.
- The guideline was developed for the Association of Women's Health, Obstetric, and Neonatal Nurses (AWHONN) as a resource for nursing practice. The guideline does not define a standard of care, nor is it intended to dictate an exclusive course of management. It presents general methods and techniques of practice that are currently acceptable, based on current research and used by recognized authorities. Proper care of individual patients may depend on many individual factors as well as professional judgment. The guideline developer has tried to ensure that drug classifications and selections set forth in this text are in accordance with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check other available evidence published in referenced resources for each drug for any change in indications and dosages and for added warnings and precautions. This is particularly important when a recommended agent is a new or infrequently employed drug. The information presented is not designed to define standards of practice for employment, licensure, discipline, legal or other purposes. Variations and innovations that are consistent with law, and that demonstrably improve the quality of patient care should be encouraged.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN). Nursing care of the woman receiving regional analgesia/anesthesia in labor. Evidence-based clinical practice guideline. Washington (DC): Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN); 2001 Jan. 36 p. [72 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2001 Jan

GUIDELINE DEVELOPER(S)

Association of Women's Health, Obstetric, and Neonatal Nurses - Professional Association

SOURCE(S) OF FUNDING

Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN)

GUIDELINE COMMITTEE

Evidence-based Clinical Practice Guideline Development Team

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Evidence-based Clinical Practice Guideline Development Team: Judith H. Poole, PhD, RNC, FACCE, Team Leader; Jana L. Atterbury, RNC, MSN; Carol Elaine Brown, RNC, MN; Margaret K. Burns, RNC, MS; Angela L. DelGrande, RNC, MSN, WHCNP; Rachel H. Hammer, RNC, MSN.

Reviewers: Nancy O´Brien-Abel, MN, RNC; Sandra K. Cesario, RNC, PhD; Barbara T. Meagher, RNC, MSC, CNM; Kathleen Rice Simpson, PhD, RNC, FAAN.

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

An update is not in progress at this time.

GUIDELINE AVAILABILITY

Electronic copies: Not available at this time.

Print copies: Available by contacting the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN), 2000 L Street, N.W. Suite 740, Washington, D.C. 20036; Phone: (800) 354-2688; Web site: www.awhonn.org.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Nursing care of the woman receiving regional analgesia/anesthesia in labor. Quick care guide. Washington (DC): Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN), 2001 Jan. 2 p.

Electronic copies: Not available at this time.

Print copies: Available by contacting the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN), 2000 L Street, N.W. Suite 740, Washington, D.C. 20036; Phone: (800) 354-2268; Web site: www.awhonn.org.

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on April 9, 2002. The information was verified by the guideline developer on June 7, 2002.

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